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REMEDIAL ACTION UPDATE SITE 11 NSB KINGS BAY GA
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U S NAVY ENVIRONMENTAL PROGRAM

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Remedial Action Update

SITE 11

Naval Submarine Base, Kings Bay

A streamlined approach and advanced technology helped the Naval Submarine Base (SUBASE) at Kings Bay in southern Georgia begin an aggressive groundwater treatment program within 21 months of identifying the problem. The groundwork for this fast-track cleanup focused on collecting the information needed to quickly identify treatment and design options based on probable site conditions. This solution-oriented approach led to installing an effective groundwater extraction and treatment system designed to remove organic contaminants.

Description of the Problem

In June 1992, a groundwater problem was identified at the Old Camden County Landfill (Site 11) as part of the Navy's Installation Restoration program. That August, investigations verified that chlorinated solvents (byproducts of some common industrial cleaning fluids) were in the groundwater underneath the landfill and that this groundwater was likely moving offbase. Project technical specialists then met with local environmental officials and citizens to discuss future activities. More extensive sampling indicated that the groundwater contamination had occurred over nearly a quarter-mile-square area, including portions of a neighboring housing development.

How the Problem Was Addressed

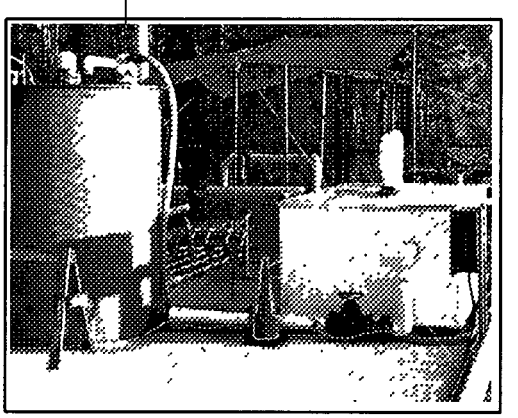
Design of an interim groundwater cleanup system began in July 1993, only 13 months after discovery of the problem. The design was based on confirmed data from earlier investigations. The system was designed to (1) stop further movement of the affected groundwater and (2) reduce the levels of the chemicals; it used both established (air sparging) and emerging (bioremediation) methods for treating chlorinated compounds. Operation of the groundwater treatment system began in March 1994.

Treatment Results

As of June 1996, more than 24 million gallons of contaminated groundwater have been removed from the site, cleaned up to acceptable levels, and released to the base's wastewater treatment plant. Monitoring data show that the treatment system is performing as planned by keeping the contaminated groundwater from moving toward the housing subdivision. System upgrades are currently under design to increase pumping in areas with the highest contaminant levels.

Savings Realized

Proactive cleanup efforts at the SUBASE required cooperation between many participants, including the local community, to address immediate public health and environmental concerns. By implementing measures early to keep groundwater contamination from advancing, the Navy is reducing the overall time and cost required for groundwater cleanup at Site 11.



Groundwater extraction and treatment system at Site 11

Participants (ABB Environmental Services, Inc , Georgia Department of Natural Resources, Naval Facilities Engineering Command, Southern Division, Naval Submarine Base, Kings Bay, U S Environmental Protection Agency, U S Geological Survey)

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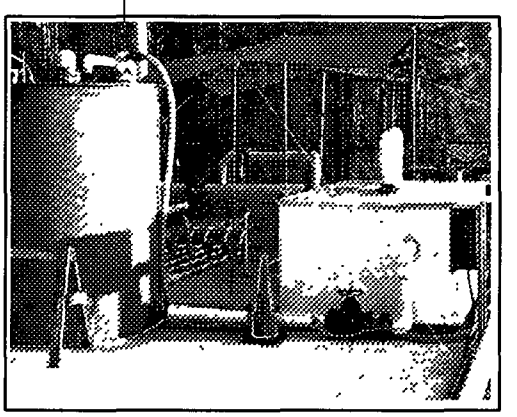

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Interim Measure Fact Sheet
SUBASE Kings Bay
August 1993

Introduction

The ongoing investigations and the upcoming Interim Measure at the Old County Landfill at SUBASE are governed by the Resource Conservation and Recovery Act (RCRA) of 1976 and the subsequent 1984 Hazardous and Solid Waste Amendments (HSWA). These regulations specify the general approach to environmental cleanup that is being followed by the SUBASE. The next public information session will be conducted to explain the steps involved in the investigation, and particularly the Interim Measure. This fact sheet provides some background information about the regulatory process and the Interim Measure objective prior to the public information session.

What has happened so far?

In January 1991, the Navy, under the Installation Restoration Program, began a RCRA Facility Investigation (RFI) that included the Old County Landfill. This involved installing shallow monitoring wells around the landfill, and performing bi-monthly groundwater sampling. In June 1992, the results of these sampling events confirmed that the groundwater has been affected by solvents and solvent related by-products on SUBASE property near the Old County Landfill. An investigation conducted during August 1993 confirmed that the affected groundwater had crossed Spur 40 and was slowly moving west.

As required by the regulations, the Georgia Environmental Protection Division, United States Environmental Protection Division - Region IV, and other regulatory agencies were notified of a release to the environment. SUBASE held the first Public Information Session in early September 1992. Subsequent investigations have confirmed that the affected groundwater is present beneath Crooked River Plantation Subdivision. Although this groundwater does not affect public drinking water supplies, the residents of Crooked River Plantation Subdivision were asked to voluntarily stop using their irrigation wells. This was a precaution to minimize exposure to the groundwater.

In May 1993, the Navy presented findings associated with the screening risk evaluation. This evaluation was completed to answer the immediate questions about exposure and potential for exposure from the affected groundwater. This evaluation revealed that there are no adverse health effects expected due to exposure to the groundwater. The residents at the public meeting were advised that if they wished to minimize exposure, they should not use the irrigation wells for washing of cars, filling swimming pools, or for children's water toys or pools. Since the groundwater movement is affected by irrigation well usage, the Residents were also requested to minimize the use of the irrigation wells for the watering of lawns.

Most recently, the Navy has completed planning for the next phases of their investigation and initial remediation activities. These activities are a part of the RCRA Corrective Action Plan.

What exactly are the steps in the RCRA Corrective Action process?

The RCRA Corrective Action process begins with a RCRA Facility Assessment to identify potential sites that may have the potential for releases to the environment, and to gather evidence to see if a release to the environment has occurred. If further investigation is needed a RFI is initiated. The RFI is a focused investigation that looks at specific releases, exposure pathways, and potential contaminants. It is designed to be a step-by-step approach with significant interaction between the Navy and regulatory agencies. The scope and the emphasis of the investigation is refined as more information becomes known about the site.